

Amendment

Please add claim 9 as follows:

9 (New). The method of claim 1, wherein the supplementary pressure is determined by identifying pressure gradients within the region, said region being characterized by a seismic image, said seismic image comprising a stacked time section representing horizons within said region, comprising:

- a) picking a first selected horizon from said seismic image;
- b) calculating a set of instantaneous amplitudes and frequencies for said first selected horizon;
- c) determining the average amplitude and frequency of said set of instantaneous amplitudes and frequencies;
- d) identifying pressure gradients associated with said instantaneous amplitudes and frequencies to generate a pressure gradient map, said pressure gradients corresponding to points at which said instantaneous amplitudes and frequencies vary from said average amplitude and frequency, wherein points at which said instantaneous amplitudes and frequencies are less than said average amplitude and frequency correspond to locations of relatively low pressure.

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